UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/807,930	OGAWA ET AL.
	Examiner	Art Unit
	Anh Ngoc Nguyen	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 March 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>03/23/2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

Response to Amendment

Applicant's Arguments/Remarks dated 03/10/2008 have been considered but are not persuasive. The rejections under 35 U.S.C 101 have been withdrawn after Applicant amended claims 1 – 8 to meet the statutory requirements. Applicant's arguments regarding claims 1 – 8 have been considered but are moot in view of the new ground(s) of rejection.

Response to Arguments

Applicant alleges, page 7 of Applicant's Remarks, that Virgile (US 5,608,726; hereinafter Virgile), fails to *teach or disclose every element of Applicant's apparatus and method, and lacks critical elements that form an essential part of Applicant's disclosure.*

Virgile teaches or discloses every element of Applicant's apparatus and method. The critical elements that form the essential part of the claims are shown in the mapping of the claims and in the body of the office action below.

Applicant argues, page 7 of Applicant's Remarks, that *"The claimed apparatus and methods here are specifically intended for implementation in a building automation system. This is not an inherent characteristic of the Virgile system and method, product, which pertains to a "campus network" type of implementation. Note, persons using the Virgile system and method for network bridges on a "campus network" would not inherently be engaged in building automation as provided here. There is thus no inherency from Virgile."*

Examiner respectfully disagrees as Virgile teaches a system, method and product that pertain to a building network. Virgile discusses the subnetworks A, B, C are typically isolated to a single, small geographic area such as an office building or floor of an office building (see col. 1 lines 30 - 35).

Applicant argues that *"The purpose of the redundant bridges is to ensure that "if a subnet fault is detected in the subnet, the redundant bridges may also be operated to reroute traffic or messages around the fault. Virgile teaches no such failsafe mechanism."*

Virgile teaches a failsafe mechanism in col. 2 lines 35 - 40, where Virgile discusses the communication amongst the hosts h1 - h3 and bridge b1 in the network segment L1 does not effect the communication amongst the host h4 and bridge b1 in the network segment L2. Further, the bridge enables inter-segment communication while isolating the two network segments so that they operate as independent collision domains (col. 2 lines 45 - 50), therefore a fault on one network segment would not affect the other network segment.

Applicant argues on page 13 that, *"regarding Virgile, supra, and submit that suggesting the additional features of a CAN bus as taught by Marbach or the vacation mode taught by Filgate do not overcome the shortcomings of Virgile as a reference. Moreover, the alleged "vacation mode" of Filgate refers merely to an 'idle' mode (col. 3, line 3) in which the initiator will stay until it can acquire and control both bridges. The "vacation mode" of Applicant's system is literally the function of providing for the building to "appear to be "lived-in" even when the user is not present (e.g., away on vacation)." (p. 6, para. 0067). This involves active states not suggested by a mere "idle" state."*

Examiner respectfully disagrees. Applicant is claiming a CAN bus and Marbach teaches a CAN bus (see abstract and col. 1 lines 32 - 40) to overcome the shortcomings of Virgile as a reference. As to Filgate as a reference, the applicant is reminded that the examiner is entitled to give the broadest reasonable interpretation to the language of the claim. Therefore, the examiner

has interpreted "vacation mode" in the claim of the instant application to be "idle mode" as

disclosed in the cited reference, within the broad meaning of the term. The examiner is not

limited to the applicants' definition, which is not specifically set fourth in the claims.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 9, 10, 12 – 18, and 20 – 22 are rejected under 35 U.S.C. 102(b) as being

anticipated by Virgile (5,608,726).

Virgile discloses network bridge with multicast forwarding table comprising the

following features:

Regarding claim 9, Virgile discloses a building automation system comprising:

a local area network (see Fig. 1 and col. 1 lines 45 - 50); a subnetwork for connecting at least one

automation device (see Fig. 1 and col. 6 lines 55 - 67, subnetwork A, B and C with plurality of

hosts); a first bridge connecting the subnetwork to the local area network (see Fig. 1 and col. 1

lines 43 - 48, b1 connects to subnetwork A); a second bridge connecting the subnetwork to the

local area network (see Fig. 1 and col. 1 lines 43 – 48, b2 connects to subnetwork A), wherein at

least one of the bridges connects the subnetwork to the local area network even if the other

bridge is offline (see Fig. 1 and col. 2 lines 35 – 50, the bridge isolates the two network segments

so that they can operate as independent collision domains).

Regarding claim 10, Virgile discloses wherein at least one of the bridges is

communicatively coupled to at least one automation device even if the subnetwork includes a

break (see col. 2 lines 35 – 60 and col. 8 lines 25 – 36 lines 43 – 47 lines 61 - 67).

Regarding claim 12, Virgile discloses herein the local area network is an Ethernet

network (see col. 1 lines 64 – 67 and col. 2 lines 50 – 54, an Ethernet LAN).

Regarding claim 13, Virgile discloses further comprising a plurality of subnetworks

connected to the local area network by a plurality of bridges (see Fig. 1 and col. 1 lines 26 – 32

lines 43 – 50, bridges b1 – b4 and subnetworks A, B, C in LAN).

Regarding claim 14, Virgile discloses a method comprising: connecting a first bridge to a

local area network (see Fig. 1 and col. 1 lines 45 - 50); connecting the first bridge to a

subnetwork of building automation devices (see Fig. 1, bridge b1 connects to subnetwork A with

plurality of hosts h1 – h8); connecting a second bridge to a local area network (see Fig. 1 and

col. 1 lines 45 - 50, b2); connecting the second bridge to the same subnetwork of building

automation devices (see Fig. 1, b2 connects to subnetwork A); receiving configuration

information at the bridge or bridges via the local area network (see Fig. 1 and col. 3 lines 4 - 10);

and configuring a building automation device in the subnetwork based on the configuration

information received at the bridge or bridges (see col. 4 lines 11 - 35).

Regarding claim 15, Virgile discloses further comprising assigning a dynamic address to the building automation device in the subnetwork (see col. 9 lines 40 – 50, the processor writes the multicast destination address for the group).

Regarding claim 16, Virgile discloses further comprising receiving updated configuration information via the local area network for the building automation device in the subnetwork (see col. 7 lines 60 – 67 and col. 8 lines 9 – 12, a table that includes a list of the hosts and for storing indication of I/O interfaces).

Regarding claim 17, Virgile discloses further comprising maintaining a map of building automation devices in the subnetwork (see col. 7 lines 45 – 67, a forwarding table with entries and I/O interfaces).

Regarding claim 18, Virgile discloses further comprising automatically updating a map of building automation devices in the subnetwork if a building automation device is added to the subnetwork (see Fig. 4, col. 7 lines 60 - 67 and col. 8 lines 1 – 12 lines 25 – 47, a list field for storing a list of hosts which are members of the multicast group).

Regarding claim 20, Virgile discloses further comprising resetting a building automation device in the subnetwork (see col. 10 lines 30 – 34, turning on and off of hosts).

Regarding claim 21, Virgile discloses further comprising isolation of a fault in the subnetwork (see col. 2 lines 45 - 50, isolating the two network segments so that they operate as independent collision domains).

Regarding claim 22, Virgile discloses further comprising automatic rerouting of

subnetwork traffic if a subnetwork fails (see Fig. 1, col. 1 lines 43 – 50, col. 2 lines 43 – 67 and

col. 3 lines 1 – 3, control packets are sent between bridges to determine the best route for

reaching each host in the subnetwork).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1, 3 – 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Koch et al (4,737,953) in view of Shteyn (6,199,136).

Koch discloses local area network bridge comprising the following features:

Regarding claim 1, Koch discloses a building automation system controller (see Fig. 3,

micro-processor 144, 150); a first network controller (see Fig. 3, LAN controller 136)

operatively associated with the building automation system controller (see Fig. 3, micro-

processor 144, 150), the first network controller (see Fig. 3, LAN controller 136) connecting the

bridge to a local area network (see Fig. 3 and col. 7 line 25, LAN 126); a second network

controller (see Fig. 3, LAN controller 140) operatively associated with the building automation

system controller (see Fig. 3, micro-processor 144, 150), the second network controller (see Fig.

3, LAN controller 140) connecting the bridge to a subnetwork (see Fig. 1 and col. 4 lines 4 – 22,

the same bridge shown as Fig. 3 connecting to networks, i.e. subnetworks); and a processor-

executed program code provided in computer-readable storage (see Fig. 3 and col. 7 lines 48 –

67, instructions stored in the ROM) operatively associated with the building automation system

controller (see Fig. 3 and col. 7 lines 48 - 67, micro-processor 144, 150), the processor-executed

program code (see col. 7 lines 65 – 67, instructions) including: program code for receiving

configuration information via the local area network (see col. 8 lines 5 – 20, each controller

provides status information to its microprocessor with respect to received message frames); and

program code for configuring an automation device connected to the subnetwork based on the

configuration information (see col. 7 lines 1 – 15 and col. 8 lines 20 - 54, decoding the messages

and determining if the address can be added).

Regarding claim 3, Koch discloses wherein the processor-executing program code further

includes program code for receiving updated configuration information via the local area

network for the automation device in the subnetwork (see col. 3 lines 20 – 55 and col. 4 lines 55

– 67, the bridge learns the particular source address of the device when the device sends

messages frame).

Regarding claim 4, Koch discloses wherein the processor-executing program code further

includes program code for maintaining a map of automation devices in the subnetwork (see col.

8 lines 25 – 40, table is interpreted to be a map corresponding to addresses of devices).

Regarding claim 5, Koch discloses wherein the processor-executing program code further

includes program code for automatically updating the map if an automation device is added to

the subnetwork (see col. 3 lines 20 – 26, col. 6 lines 32 – 35 and col. 8 lines 35 - 40).

Regarding claim 8, Koch discloses wherein the processor-executing program code further
includes program code for resetting a device in the subnetwork (see col. 3 lines 20 - 25,
automatically accounts for device relocations interpreted as resetting a device based on its
address).

Koch discloses the claimed limitations as stated above. Koch does not specifically
disclose the following features: regarding claim 1, a bridge apparatus for a building automation
system.

Shteyn discloses method and apparatus for a low data rate network to be represented on
and controllable by high data rate home audio/video interoperability network comprising the
following features:

Regarding claim 1, Shteyn discloses a bridge apparatus (see Koch, abstract) for a
building automation system (see Shteyn, abstract and col. 5 lines 15 - 25).

It would have been obvious to one ordinary skilled in the art at the time the invention was
made to modify the invention of Koch, and have the features, as taught by Shteyn, thus providing
for a method for enabling a high data rate first control network to control a device in a low data
rate second network, as discussed by Shteyn (see col. 5 lines 35 - 40).

5.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al
(4,737,953) in view of Shteyn (6,199,136) and further in view of Wong et al (6,070,242).

Koch and Shteyn disclose the claimed limitations as stated in paragraph 4 above. Koch
and Shteyn do not specifically disclose the following features: regarding claim 2, wherein the

processor executing program code further includes program code for assigning a dynamic

address to the automation device in the subnetwork.

Wong discloses method to activate unregistered systems in a distributed multiserver

network environment comprising the following features:

Regarding claim 2, Wong discloses wherein the processor executing program code

further includes program code for assigning a dynamic address to the automation device in the

subnetwork (see col. 2 lines 38 – 45, col. 4 lines 1 – 14 and col. 7 lines 36 - 46).

It would have been obvious to one ordinary skilled in the art at the time the invention was

made to modify the invention of Koch and Shteyn, and have the feature, as taught by Wong, thus

providing for a method and apparatus for controlling access to services within a computer

network, as discussed by Wong (see col. 2 lines 30 - 35).

6.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al

(4,737,953) in view of Shteyn (6,199,136) and further in view of Filgate (6,292,488).

Koch and Shteyn disclose the claimed limitations as stated in paragraph 4 above. Koch

and Shteyn do not specifically disclose the following features: regarding claim 6, wherein the

processor-executing program code further includes program code for operating automation

devices in a vacation mode.

Filgate discloses method and apparatus for resolving deadlocks in a distributed computer

system comprising the following features:

Regarding claim 6, Filgate discloses wherein the processor-executing program code further includes program code for operating automation devices in a vacation mode (see abstract, col. 3 lines 25 - 30).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Koch and Shteyn, and have the feature, as taught by Filgate, thus providing for a computer system that is capable of recovering from a deadlock between devices communicating across a long haul simplex data link, as discussed by Filgate (see col. 3 lines 64 - 67).

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al (4,737,953) in view of Shteyn (6,199,136) and further in view of Craig et al (6,266,809).

Koch and Shteyn disclose the claimed limitations as stated in paragraph 4 above. Koch and Shteyn do not specifically disclose the following features: regarding claim 7, Craig discloses wherein the processor-executing program code further includes program code for updating firmware at the device in the subnetwork.

Craig discloses methods, systems and computer program products for secure firmware updates comprising the following features:

Regarding claim 7, Craig discloses wherein the processor-executing program code further includes program code for updating firmware at the device in the subnetwork (see abstract, col. 2 lines 39 – 67, and col. 4 lines 20 - 25).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Koch and Shteyn, and have the feature, as taught by Craig, thus

providing for updating the firmware of a network computer without the need for a floppy drive

or other portable storage media, as discussed by Craig (see col. 2 lines 30 - 35).

8.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virgile

(5,608,726) in view of Marbach et al (6,654,355).

Virgile discloses the claimed limitations as stated in paragraph 2 above. Virgile does not

specifically disclose the following features: regarding claim 11, wherein the subnetwork is a

CAN bus.

Regarding claim 11, Marbach discloses wherein the subnetwork is a CAN bus (see Fig. 1

and col. 1 lines 33 – 36, CAN bus).

It would have been obvious to one ordinary skilled in the art at the time the invention was

made to modify the invention of Virgile, and have the feature, as taught by Marbach, thus

providing for monitoring a CAN type network and also diagnosing problems for the CAN type

network, as discussed by Marbach (see col. 2 lines 31 - 34).

9.   Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virgile

(5,608,726) in view of Figate (6,292,488).

Virgile discloses the claimed limitations as stated in paragraph 2 above. Virgile does not

specifically disclose the following features: regarding claim 19, further comprising operating

building automation devices in a vacation mode.

Regarding claim 19, further comprising operating building automation devices in a

vacation mode (see col. 3 lines 25 – 30, idle mode).

It would have been obvious to one ordinary skilled in the art at the time the invention was

made to modify the invention of Virgile, and have the feature, as taught by Filgate, thus allowing

computer devices to communicate across data links without expending significant resources for

providing link monitoring, as discussed by Filgate (see col. 2 lines 55 - 58).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Anh Ngoc Nguyen whose telephone number is (571) 270-5139.

The examiner can normally be reached on M - F, from 7AM to 3PM (alternate first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kwang Yao can be reached on 5712723182. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anh Ngoc Nguyen/
Examiner, Art Unit 2616
06/17/2008

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616